Title: Life on the Bay

Brief Overview:

The objective of this unit is to utilize the Internet to gather data for the purpose of a PowerPoint presentation. Students will access sites chosen by the teacher with the assistance of eBoard. The focus of the presentation will involve environmental or political concerns of the Chesapeake Bay and should be supported with mathematical and scientific data.

NCTM 2000 Principles for School Mathematics:

- **Equity:** *Excellence in mathematics education requires equity - high expectations and strong support for all students.*

- **Curriculum:** *A curriculum is more than a collection of activities: it must be coherent, focused on important mathematics, and well articulated across the grades.*

- **Teaching:** *Effective mathematics teaching requires understanding what students know and need to learn and then challenging and supporting them to learn it well.*

- **Learning:** *Students must learn mathematics with understanding, actively building new knowledge from experience and prior knowledge.*

- **Assessment:** *Assessment should support the learning of important mathematics and furnish useful information to both teachers and students.*

- **Technology:** *Technology is essential in teaching and learning mathematics; it influences the mathematics that is taught and enhances students' learning.*

Links to NCTM 2000 Standards:

- **Process Standards**

  Problem Solving
  Students will monitor and reflect on their mathematical thinking in solving problems.

  Reasoning and Proof
  Students will make and investigate mathematical conjectures that must be supported by their research.

  Communication
  Students will express mathematical ideas coherently and clearly to peers, teachers, and others.

  Connections
  Students will recognize, use, and learn about mathematics in contexts outside of mathematics.

Links to Maryland High School Mathematics Core Learning Goals:

Functions and Algebra
- **1.1.1**
Students will recognize, describe, and extend patterns and functional relationships that are expressed numerically.

Links to National Science Education Standards:

- **Unifying Concepts and Processes**
Students will gather evidence, use models, and make explanations on their presentation.

- **Science in Personal and Social Perspectives**
Students will investigate population growth, environment quality, and natural and human induced hazards.

Grade/Level:

Grades 9-12

Duration/Length:

Depending on the size of the class and prerequisite knowledge, this unit should take between five to eight 45 minute periods.

Prerequisite Knowledge:

Students should have working knowledge of the following skills:

- Gathering information from the World Wide Web
- Creating a PowerPoint slide show

Student Outcomes:

Students will:

- utilize eBoard to gain access to designated sites.
- acquire and report knowledge about concerns of the Chesapeake Bay.
- use PowerPoint to make classroom presentations.

Materials/Resources/Printed Materials:

- Access to the Internet.
- Access to PowerPoint.
- Student Resource Sheet #1 "Life on the Bay"
- Student Resource Sheet #2 "PowerPoint"
- Teacher Resource Sheet #1 "Scoring Tool"

Development/Procedures:

Before beginning this unit, teachers should familiarize themselves with PowerPoint and the eBoard site that has been established for this unit. The directions that follow also will be given to the students.

To access eBoard follow these steps:
1. Log onto the Internet.
2. Go to www.eBoard.com
3. In the box "Enter an eBoard", type **LifeontheBay**, then enter
4. Click on the posted notes.

Provide students with clear expectations. They are to research the Chesapeake Bay from an *environmental* or *political* point of view using the Internet. They are to portray their research in the form of a PowerPoint presentation. The presentation should have seven to ten slides, including a title page. Students should be given a copy of the scoring tool that will be used for their presentation. Students can be given the option of working alone or with a partner.

Provide students with Student Resource Sheet #1, "Life on the Bay". Students should complete the worksheet as they are completing their research. The focus of the research can be general or specific. For example, they can research blue crabs, oysters, shad, SAVs, pollutants, etc. Students should be allowed at least two days to conduct their research.

Provide students with Student Resource Sheet #2, "PowerPoint". This worksheet is only a guideline for creating a presentation. Students should make their slide shows with one of the preset templates. Students should be allowed and encouraged to be creative by incorporating sound and pictures into their slide show. Students should be allowed at least two days of lab time to create their slides.

The remaining days will be used to present their slide shows to their peers and teacher.

Assessment:

Check for completion of "Life on the Bay"
Evaluate the presentations with Teacher Resource Sheet #1, "Scoring Tool" or something similar.

Extension/Follow Up:

Some students are bound to finish before others. Incentive or bonuses can be provided for incorporating sound, pictures, graphics, animation, buttons, etc.

Authors:

Keith Seergae
Perry Hall Middle
Baltimore County, MD

Wavie Gibson III
Baltimore Polytechnic Institute
Baltimore City, MD

Name_____
Partner_____

Life on the Bay

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The focus of my(our) presentation will be _____.

Web sites that I(we) used: _____
                                  _____
                                  _____
                                  _____
                                  _____
                                  _____

Notes, outline, or graphic organizer: (continue on the back)

PowerPoint

Getting Started:
1. Open **PowerPoint**
2. Click **"template"**
    -choose your own template design
3. Select a slide
    -create a title slide
4. Go to **Insert** (at the top of your screen)
    -select **New Slide**
    -pick a slide design
    -select **OK**

Inserting & Moving Text:
1. Go to **Insert** (at the top of your screen)
    -select **text box**
    -hold down mouse key and drag the mouse to **create a box**
    -click inside the box to begin typing your text
2. Position the Pointer anywhere around the text and click
    -Hold down the mouse key and drag the box to any desired location.

Inserting & Moving Clip Art:
1. Go to **Insert** (at the top of your screen)
    -select **picture**
    -select **clip art**
2. Browse the selection for the image you want and highlight it by clicking on it.
    -select **OK**
3. To resize an image, position the pointer at a corner box and move it in to make the image
                    smaller or out to make the image larger.
4. Moving the image is done just like moving text (see above).

Slide Transitions:
1. Go to Slide Show (at the top of your screen)
    -select **Slide Transition...**
    -choose the transition effect you want
    -choose the speed
    -choose how to Advance
    -select **Apply** (if you want this effect for only this slide)
    -select **Apply to All** (if you want this effect for all of the slide transitions)

Scoring Tool

Circle Appropriate Number	Excellent	Good	Fair	Poor
Completed all work on time	4	3	2	1
Stayed on task	4	3	2	1
Stayed at home base	4	3	2	1
Wrote clear, coherent, detailed information for "Life on the Bay"	4	3	2	1
Presented to the class	4	3	2	1
Organized information and artifacts	4	3	2	1

Circle appropriate number	Excellent 4	Good 3	Fair 2	Poor 1	Score
PowerPoint Slide Show Content	Contains detailed, organized, and clear information about an aspect of the Bay	Contains organized and clear information about an aspect of the Bay with some details	Contains information about an aspect of the Bay with little detail, may not be clear and organized	Contains very little information about an aspect of the Bay with no detail or organization	1 2 3 4
Mechanics	Little or no grammatical and/or spelling errors	Few grammatical and/or spelling errors	Several grammatical and/or spelling errors	Many grammatical and/or spelling errors	1 2 3 4
Presentation Design	Contains all slides and required elements. Slides are navigable, contain all appropriate graphics and backgrounds Design and presentation are appealing	Contains all slides and required elements. Slides are fairly navigable, contain many appropriate graphics and backgrounds Design and presentation are somewhat appealing	Contains most of the slides and some required elements. Slides are sometimes navigable, contain few appropriate graphics and backgrounds Design and presentation are not appealing	Contains some slides and few required elements. Slides are not navigable, contain little or no appropriate graphics and backgrounds Design and presentation are not appealing	1 2 3 4